goto; conference aarhus

DEVOPS CULTURE AND PRACTICES TO CREATE FLOW

Jez Humble | Gene Kim

ThoughtWorks | IT Revolution Press

the production line

http://www.flickr.com/photos/toyotauk/4711057997/

the production line?

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The Deployment Production Line

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Published in:
· Proceeding
AGILE '06 Proceedings of the conference on AGILE 2006
Pages 113 - 118
IEEE Computer Society Washington, DC, USA ©2006
table of contents ISBN:0-7695-2562-8 doi>10.1109/AGILE.2006.53

2006 Article

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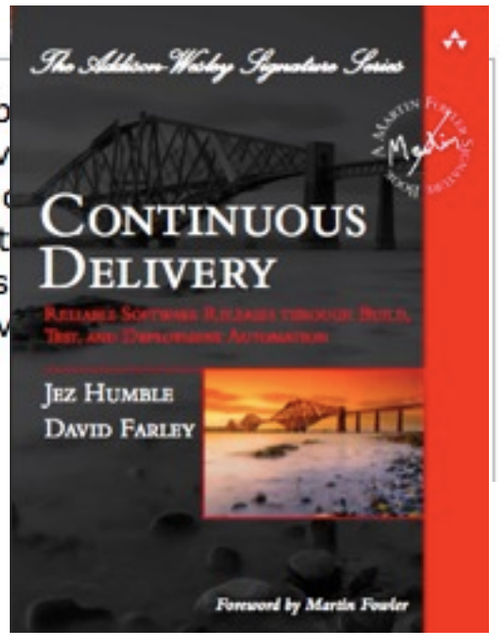
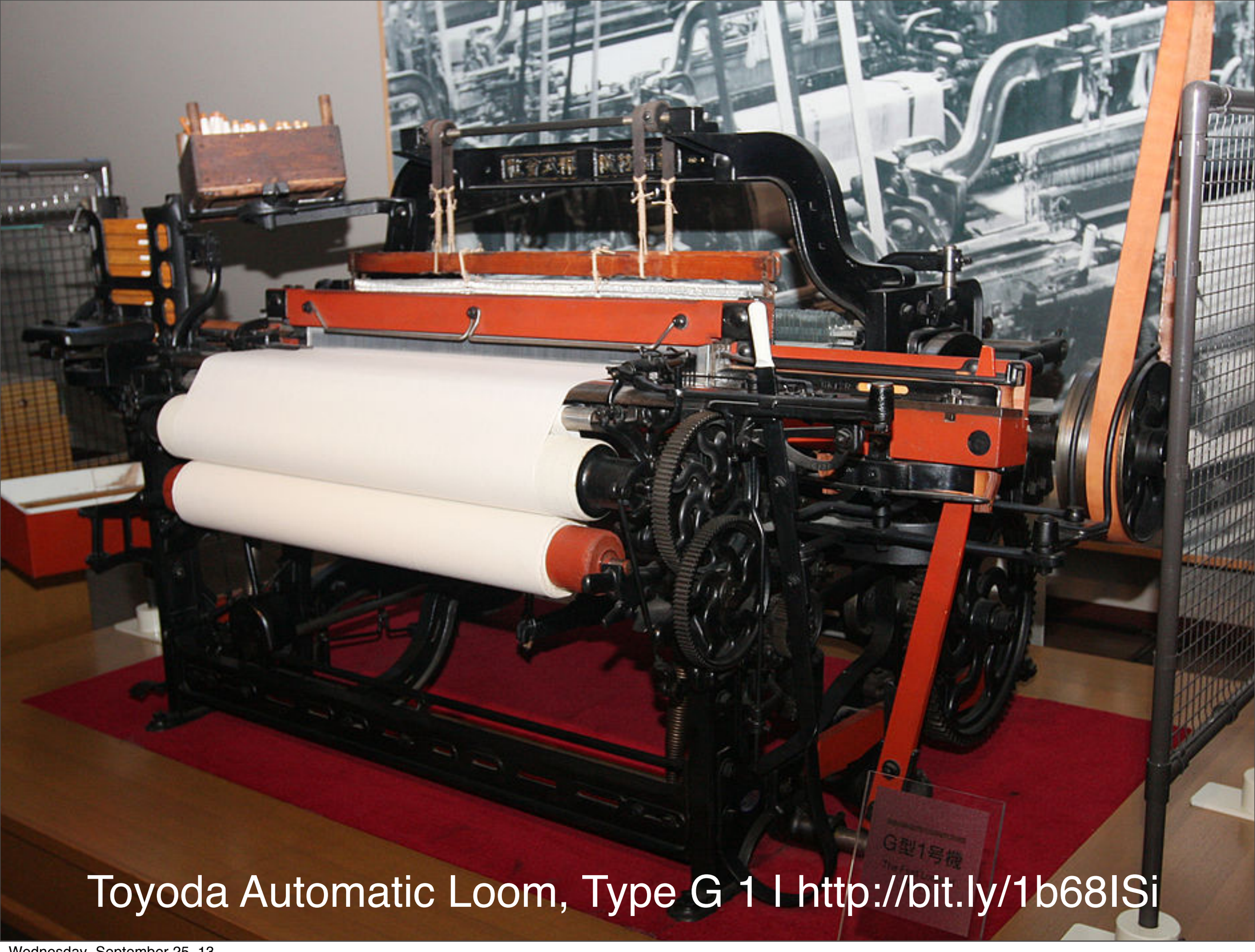
Abstract Authors References Cited By Index Terms Publication Reviews Comments Table of Contents

Testing and deployment can be a difficult and timeconsuming process in complex environments comprising app
messaging infrastructure and interfaces to external systems. We have seen deployments take several days, ev
have used automated builds to ensure their code is fully tested. In this paper we describe principles and practi
environments to be created, configured and deployed to at the click of a button. We show how to fully automat
deployment process using a multi-stage automated workflow. Using this "deployment production line", it is pos
tested code into production environments quickly and with full confidence that you can fall back to a previous v
problem occur.





Toyoda Automatic Loom, Type G 1 I http://bit.ly/1b68ISi

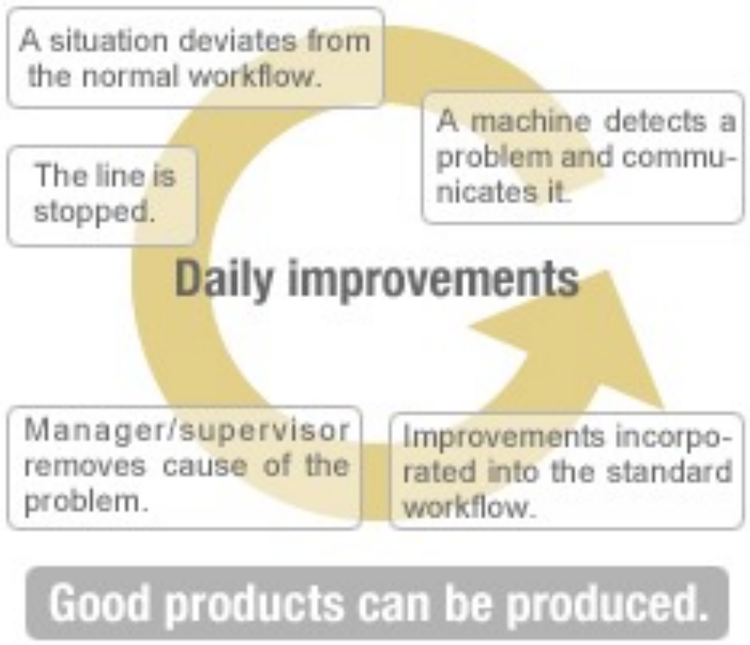
jidoka

自動化 + 人 = 自働化

automation + people
= autonomation

jidoka

Concept of jidoka



Visual Control using Andon

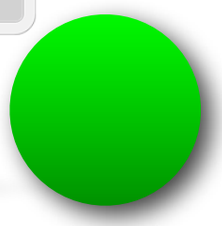
An operator communicating an abnormality

An andon problem display board that communicates abnormalities

http://www.toyota-global.com/company/vision_philosophy/toyota_production_system/jidoka.html

Local
Workstation

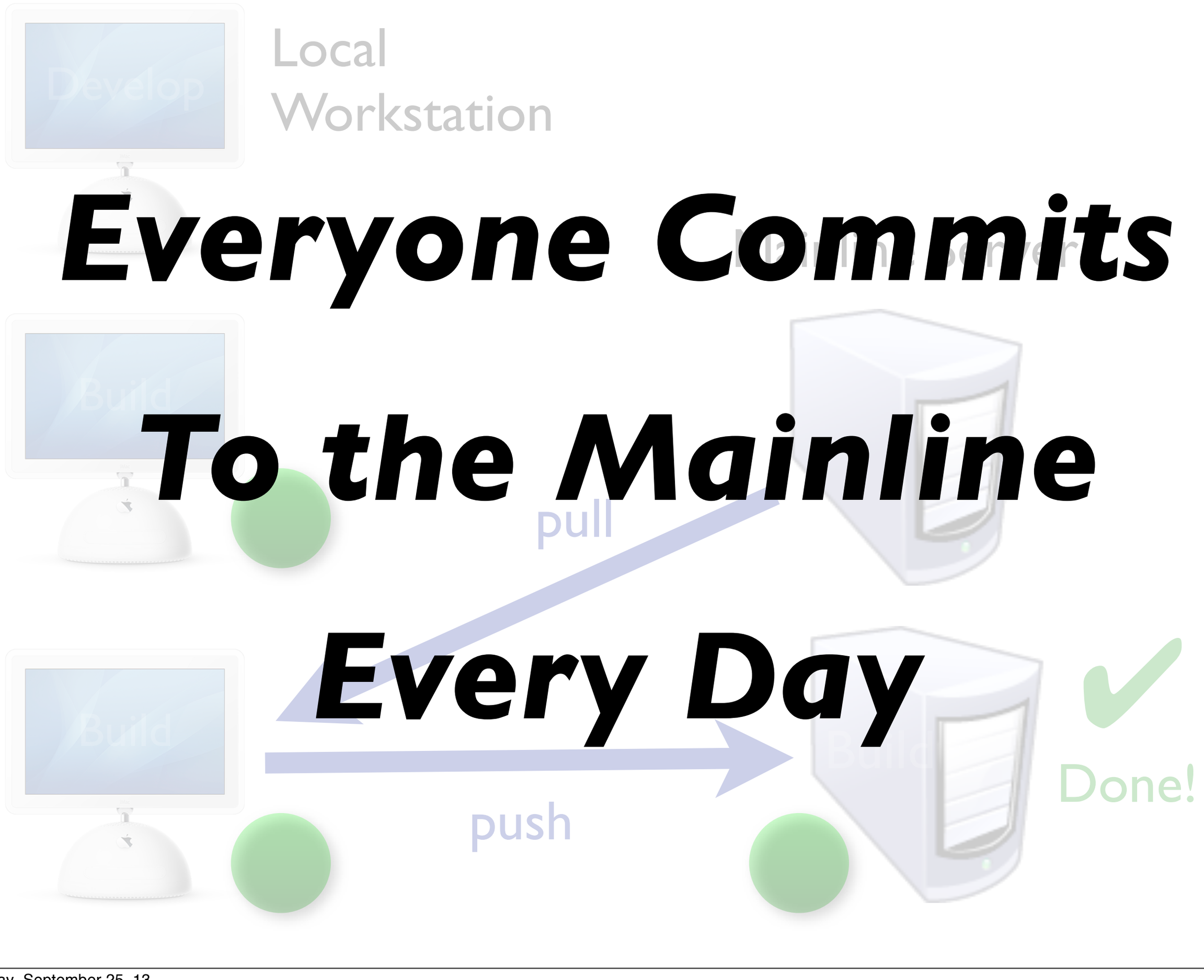
Mainline Server



pull

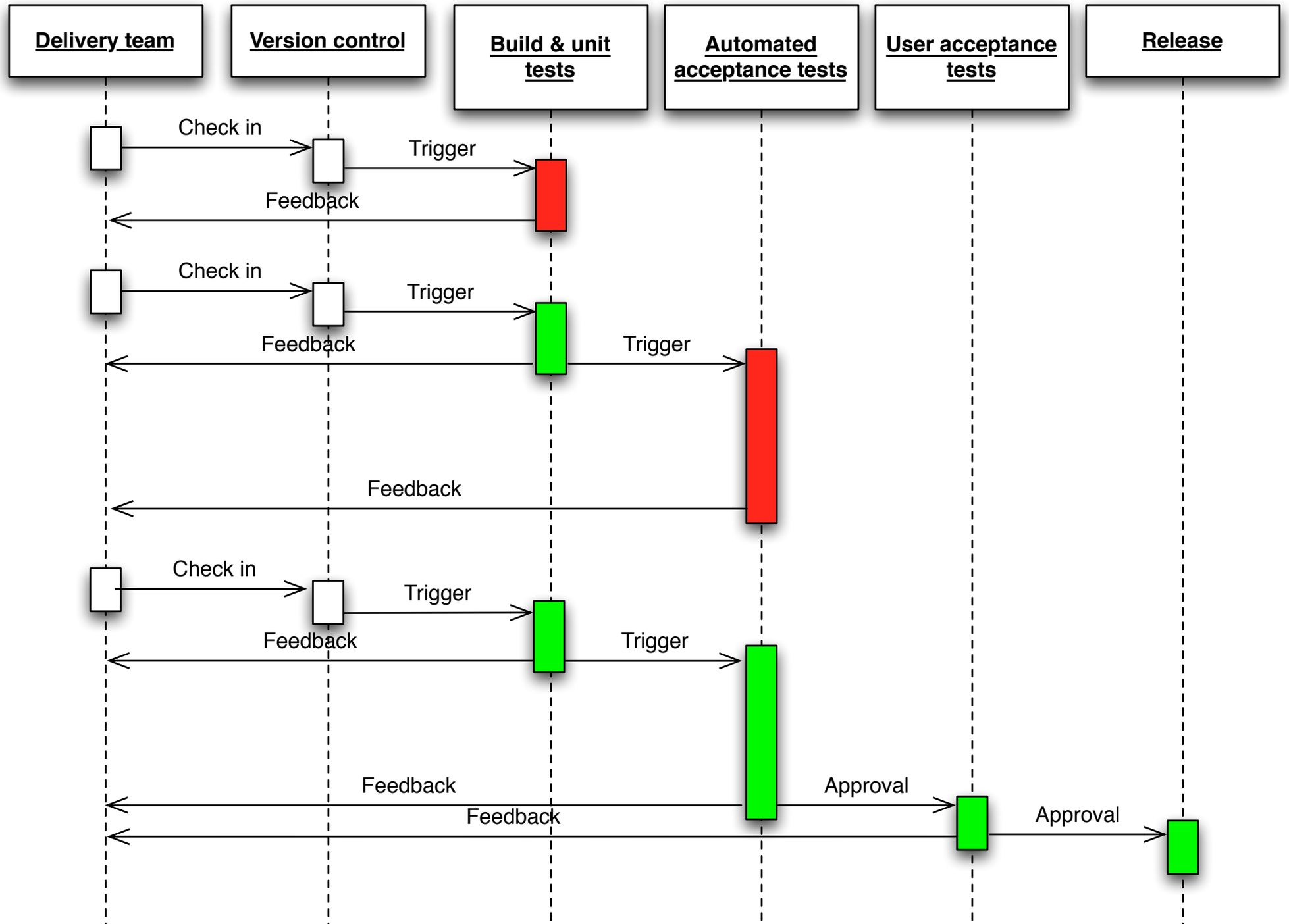
push

Done!



Everyone Commits To the Mainline Every Day

deployment pipeline



cycle time

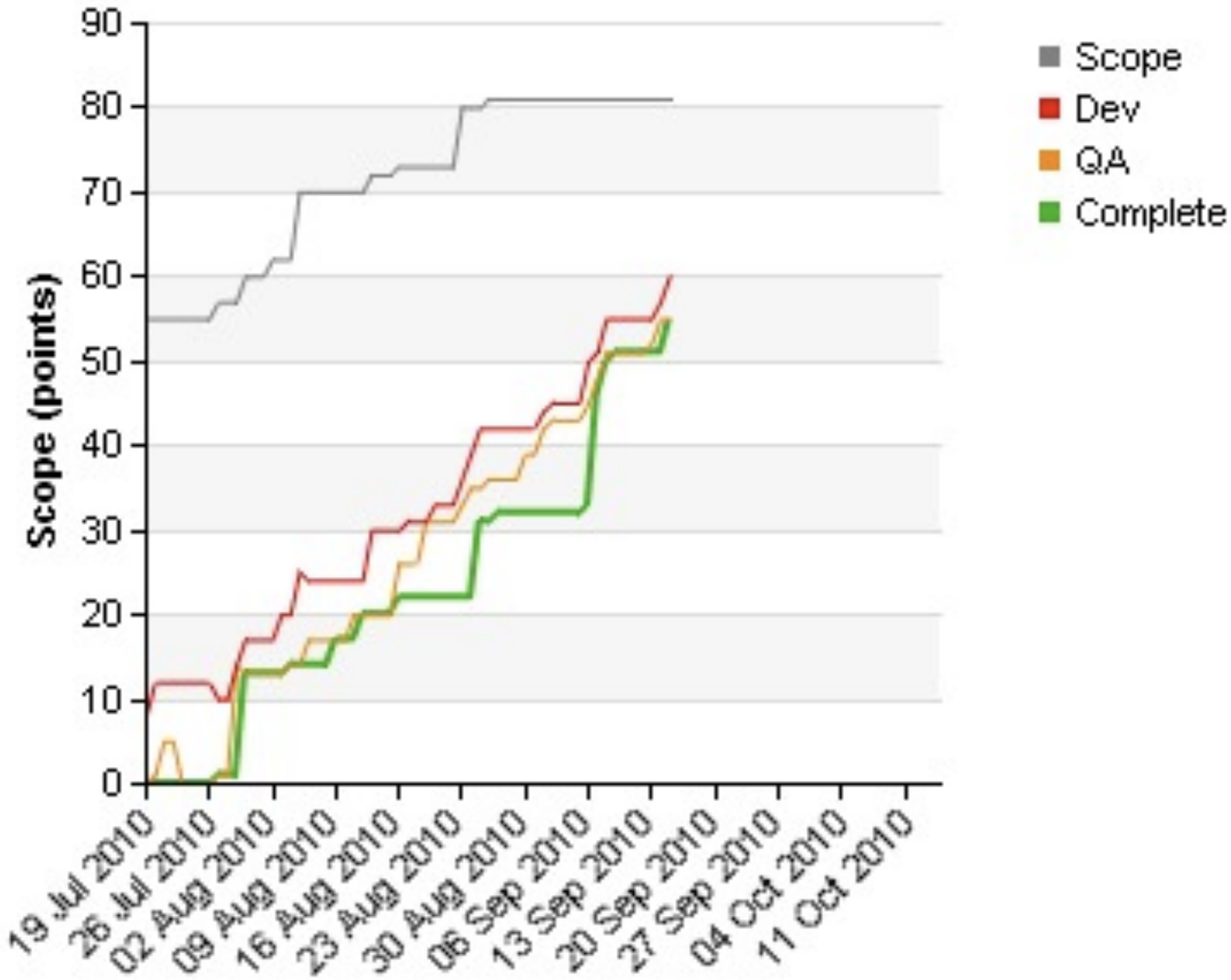
"How long would it take your organization to deploy a change that involved just one single line of code? Do you do this on a repeatable, reliable basis?"

Mary and Tom Poppendieck, *Implementing Lean Software Development,* p59.

batch size

$L = \lambda W$

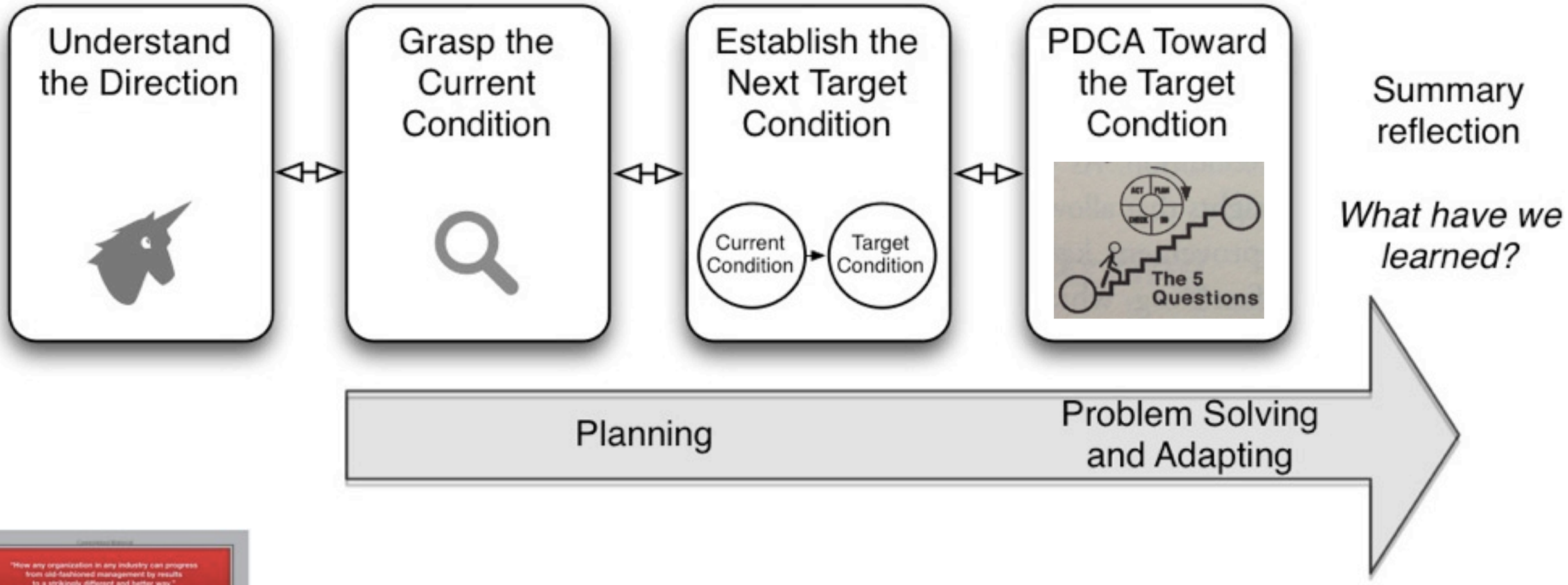
(Little's Law)

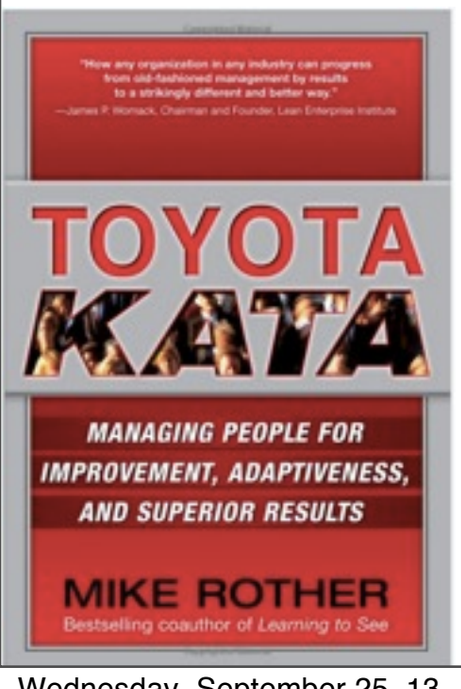


utilization

$$\frac{Cycle\ time}{Value\ added\ time} = \frac{1}{1-\rho}$$

improvement kata





improvement kata

What is the target condition? (*The challenge*)

What is the actual condition now?

What obstacles are preventing you from reaching it? which one are you addressing now?

What is your next step? (*Start of PDCA cycle*)

When can we go and see what we learned from taking that step?

hp laserjet firmware team

2008

- 10% - code integration
- 20% - detailed planning
- 25% - porting code
- 25% - current product support
- 15% - manual testing
- **~5% - innovation**

deployment pipeline

hp laserjet firmware team

2008	2011
10% - code integration	2% - continuous integration
20% - detailed planning	5% - agile planning
25% - porting code	15% - one main branch
25% - current product support	10% - one branch cpe
15% - manual testing	5% - most testing automated
~5% - innovation	**~40% - innovation**

The remaining 23% on RHS is spent on managing automated tests.

the economics

2008 to 2011

- overall development costs reduced by ~40%
- programs under development increased by ~140%
- development costs per program down 78%
- resources now driving innovation increased by 5X

A Practical Approach to Large-Scale Agile Development - Gruver, Young, Fulghum

Atlas

Member | Partial Match | Search | Logged in as Frank Harris | Logout

Support Tools
Compass
Knowledge Base
Flags
Shop Name Changes
Bulk Admin Actions
Meteor

Members
Login History
Name Changes
Convo Unmute
Feedback
Compare

Items
Cases
Itemator
Infringing Sellers
Currency Rates
Order Search
Listing Freeze

Shipping
Labels
Providers
Events
Scores

Checkout
Audit Lookup

Billing
Showcase
Deadbeats

Forums
Close/Reopen a Thread
(Un)Delete a Thread
(Un)Delete a Post
(Un)Delete per User

Choose a different test... | Home →

similar items when unavailable between 09/11/2012 to 10/11/2012 Filter How many days are needed?

Description: No description given

0.50 off
0.50 on
show filtered

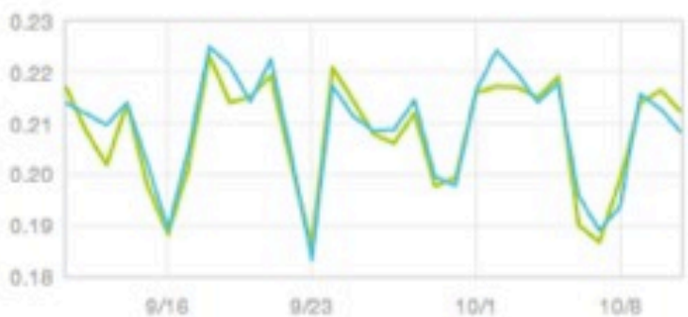
0.15 cart_payment
0.01 cart_review
0.84 cart_view

Business Metrics | Feature Funnel (beta) | Listing Funnel (beta)

Show me visits - fraction of visits for adding an item to their cart (adde Add

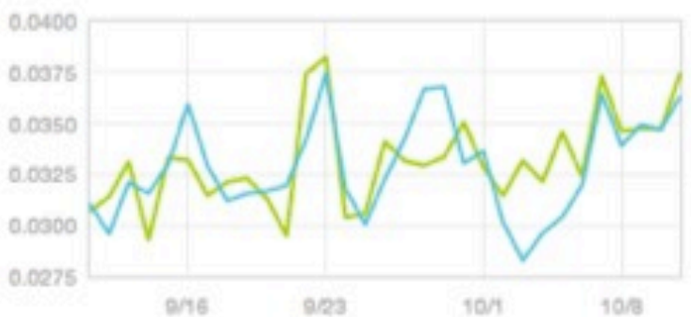
cart payment – visits

CONTROL + 0.49 %



site – bounces

CONTROL - 0.01 %

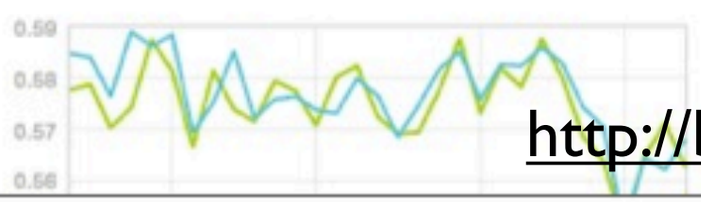


site – page count

CONTROL + 0.26 %

added to cart – visits

CONTROL + 0.34 %



http://bit.ly/19Z5izl

Etsy Launch Calendar | Home | By Team | Add an Item | Last Updated | More

Have an upcoming launch? Add an item

Active experiments | Upcoming launches | Recent 100% launches

Date	Name	Team	Notes
Nov 7	Gift Ideas browse pages	Buyer Experience	This is a gift guide browse destination. Subsections will focus on recipient (for him, for her, for kids, etc.) and price (under $25, under $100, etc.). It will work just like all other browse pages. There will be NO HAND ...
Nov 7	Etsy for iPhone (v2.1.1)	Mobile	Example — We submitted the app on Friday. We will be pushing it out when it's approved by Apple; our hope is that it's approved by Wednesday. There will be no coordination with PR or blog post. We may send ...
Nov 2	Winter Holidays browse pages	Buyer Experience	Example — These are browse pages for the Winter Holidays and will feature subsections for holiday decor, cards, etc. They'll be similar to our holiday merch hub from last year, but much deeper in terms of browsing opportunities. Those in UK ...
Nov 1	Updated treatment of homepage browse links	Buyer Experience	Example — Over a two week period we observed 4%-5% increases in browse landing page and subsection page views. There were also slight increases in add to cart and listings viewed events. Visits with a search and search events were down ...
Oct 24	Next day availability of DC funds ♥	Payments	We plan to allow established sellers to be able to deposit their funds prior the next day after a sale. Non established sellers will still need to ship items to have available funds.
Oct 23	Reduce one-time hold from 10 days to 5 days	Payments	Whenever a new seller signs up for direct checkout, a 10 day hold is placed on deposits. This also occurs anytime a bank account is updated. We have decided to reduce this standard hold period to 5 days. The main ...
Oct 23	Etsy for iPhone (v2.1) ♥	Mobile	Example — Update: We have been approved by Apple and will be launching Tuesday, 10/23 at 8am ET. _____ Our target submit date to Apple is Wednesday 10/10. Depending on Apple's turnaround time, we expect the app to be ...
Oct 22	Recipient Query Rewriting	Search & Destroy	Example — This didn't move metrics positively or negatively. However we decided to keep it because this is the first step towards using recipient in search, and encouraging users to properly associate their listing w/ a recipient. We will reevaluate how ...
Oct 19	Parcel Insurance for Shipping Labels ♥	Seller Team	Example 1, Example 2 — Rampup started 10/9. Scheduled to finish 10/19.
Oct 18	Search Ads respecting filters	Search & Destroy	This experiment didn't hurt inventory: https://splunk.etsycorp.com/en-US/app/search/flashtimeline?sid=1350940765.163366&vs=h8m3sk4b Also it looks like CTR might have improved.

http://bit.ly/19Z5izl

do less

"Evaluating well-designed and executed experiments that were designed to improve a key metric, **only about 1/3** were successful at improving the key metric!"

"Online Experimentation at Microsoft", Kohavi *et al* http://stanford.io/130uW6X

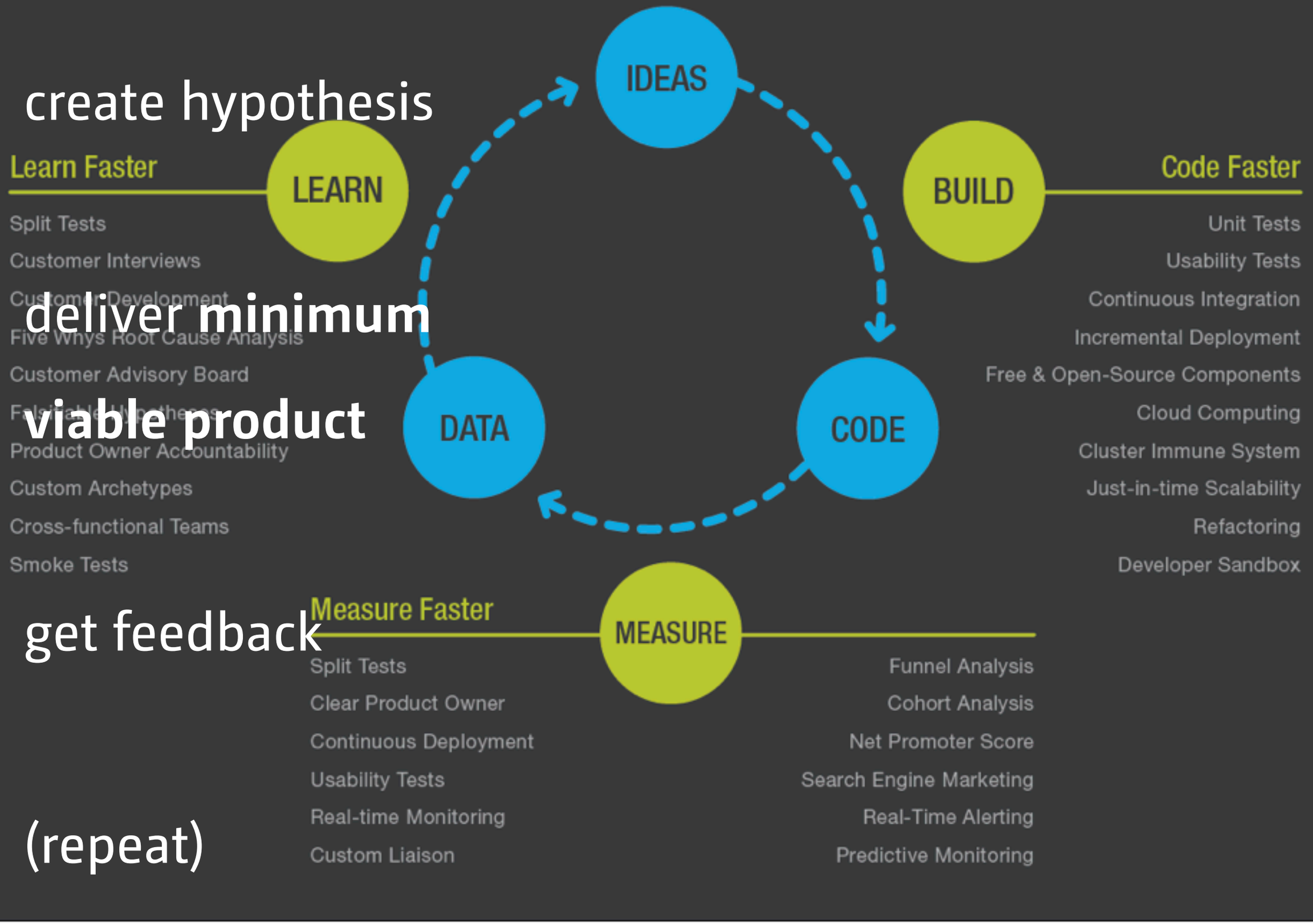
scientific method

create hypothesis

deliver **minimum** **viable product**

get feedback

(repeat)



three ways

systems thinking

feedback

culture of experimentation

CULTURE = "How we do things around here to succeed."

"The Reengineering Alternative."
William Schneider

REALITY (Actuality) ORIENTED

"We succeed by working together."

Affiliation

Synergy

COLLABORATION

Partnership

Trust

Interaction

People

Teams

Diversity

Egalitarian

"We succeed by getting and keeping control."

Power

Predictability

SECURITY

CONTROL

Process

Standardization

Hierarchical

Stability

Order

PEOPLE ORIENTED

COMPANY ORIENTED

(Personal)

(Impersonal)

"We succeed by growing people who fulfil our vision."

CULTIVATION

GROW

Purpose/Faith

Dedication

Let things Evolve

Subjectivity

Creativity

"We succeed by being the best."

Efficiency

Professionalism

COMPETENCE

#1

Meritocracy

Craftsmanship

Achievement

Expertise

Be the Best

Creativity

POSSIBILITY ORIENTED

cc Agilitrix 2011

Michael Sahota | @MichaelSahota | http://bit.ly/13Btc5c

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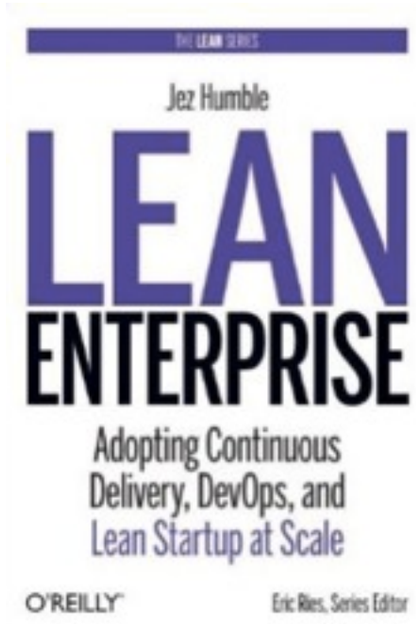
QUESTIONS



@jezhumble | @realgenekim

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